Remarks

Reconsideration and withdrawal of the objection and rejections set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1, 4-12 and 15-22 are now pending in the application, with Claims 1, 4, 7, 12, 15 and 18 being independent. Claims 2, 3, 13 and 14 have been cancelled without prejudice. Claims 1, 4-12 and 15-22 have been amended herein.

Claims 1 and 22 were objected to for minor informalities. In Claim 1, "instructing" has been changed to --instructs--. Claim 22 (as well as corresponding method Claim 11) has been amended to clarify that the detection pattern is for use in detecting the state of the nozzles. These changes are not believed to affect the scope of the claims and have not been made for any reasons related to patentability. Reconsideration and withdrawal of the objections are requested.

Claims 1-3, 7-9, 11-14, 18-20 and 22 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,481,816 (Oyen). Claims 4-6 and 15-17 were rejected under 35 U.S.C. § 103 as being unpatentable over Oyen in view of U.S. Patent No. 6,278,469 (Bland et al.). Claims 10 and 21 were rejected under § 103 as being unpatentable over Oyen in view of U.S. Patent No. 5,929,875 (Su et al.). These rejections are respectfully traversed.

Oyen relates to a printing method in which, in the event of a breakdown of an image forming element, the information of that pixel is transferred to an addressable position in the vicinity of the associated pixel. More specifically, when an ink duct i is

faulty, data corresponding to that ink duct is printed by using an ink duct j as shown in Fig. 4. As shown in Figs. 5A-5D, when an ink duct i is faulty, data corresponding to the ink duct i is added to data corresponding to neighboring ink ducts h and j. However, Oyen does not disclose or suggest that data corresponding to ink duct i is alternately added to printing data corresponding to neighboring ink ducts h and j. That is, Oyen does not disclose or suggest that printing data corresponding to the N-th abnormal nozzle is alternately added to the printing data corresponding to the (N-M)-th neighboring nozzle and the (N+M)-th neighboring nozzle every time the printing data corresponding to the N-th abnormal nozzle is present, as is recited in independent Claims 1 and 12.

Further, Oyen does not disclose or suggest that a ratio of the printing data corresponding to the N-th abnormal nozzle to be added to the printing data corresponding to the (N-M)-th neighboring nozzle and the (N+M)-th neighboring nozzle is determined based on states which are responsive to the ink ejection property of the (N-M)-th neighboring nozzle and the (N+M)-th neighboring nozzle, as is recited in independent Claims 4 and 15.

Moreover, Oyen does not disclose or suggest that a printing resolution of the printing head is improved when adding the printing data corresponding to the N-th abnormal nozzle to that corresponding to the (N-M)-th neighboring nozzle and the (N+M)-th neighboring nozzle, as is recited in independent Claims 7 and 18.

Referring to Figs. 6A-6C, 7A-7C and 8A-8C of Oyen, Applicants submit that one pixel row is printed by a plurality of ink ducts. This is contrary to the present invention in which a neighboring printing area neighboring a printing area to be printed by

the N-th abnormal nozzle is printed by using the (N-M)-th neighboring nozzle and the (N+M)-th neighboring nozzle arranged in the neighborhood of the N-th abnormal nozzle, as is recited in each of the independent claims.

Thus, Oyen fails to disclose or suggest important features of the present invention recited in the independent claims.

Bland et al. is directed to an ink jet printer and method that can customize print masks for printhead nozzle aberrations. As understood by Applicants, when printing is performed to complete an image by a plurality of scans (passes), a faulty nozzle is compensated for. More specifically, a pass mask is used to generate printing data for each scan, and a process for defining the pass mask is changed. Bland et al. also does not disclose or suggest that a neighboring printing area neighboring a printing area to be printed by the N-th abnormal nozzle is printed by using an (N-M)-th neighboring nozzle and an (N+M)-th neighboring nozzle arranged in the neighborhood of the N-th abnormal nozzle. Bland et al. is not believed to remedy the deficiencies of Oyen noted above with respect to the independent claims.

Su et al. was cited by the Examiner for teaching adjusting a print mode corresponding to a type of media in use. However, Su et al. is not believed to remedy the deficiencies of the citations noted above with respect to the independent claims.

Thus, independent Claims 1, 4, 7, 12, 15 and 18 are patentable over the citations of record. Reconsideration and withdrawal of the §§ 102 and 103 rejections are respectfully requested.

For the foregoing reasons, Applicants respectfully submit that the present invention is patentably defined by independent Claims 1, 4, 7, 12, 15 and 18. Dependent Claims 5, 6, 8-11, 16, 17 and 19-22 are also allowable, in their own right, for defining features of the present invention in addition to those recited in their respective independent claims. Individual consideration of the dependent claims is requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the objection and rejections set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

Mark A. Williamson
Attorney for Applicants
Registration No. 33,628

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200
MAW\tmt

DC_MAIN 202329v1

- 15 -